



www.extramet.net

OUR HISTORY



OUR MISSION

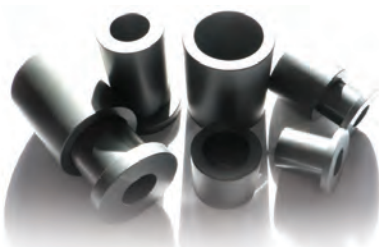
Extramet's Primary Objective Is To Deliver The Highest Quality Carbide Products That Will Be Of The Greatest Benefit To Our Customers.

In Order To Do So, We Are Committed To:

- Ensuring all employees work toward developing their capabilities according to company requirements, using these skills through result-oriented and cooperative teamwork.
- Guaranteeing the industry's most exacting safety standards are upheld.
- Taking great care with existing resources, raw materials and the environment.
- Holding the quality of our suppliers' materials up to the same high standards we use to evaluate our products.
- Exceeding the goals of both our customers and employees.

DECADES OF EXPERIENCE. Extramet has expertise in application knowledge and manufacture of tungsten carbide. Our company was founded in Switzerland in 1981. Since then, we have grown to become a leading tungsten carbide manufacturer with a global sales presence.

We manufacture a wide range of hardmetal products based on tungsten carbide material. The focus of our business is to deliver the commercial benefits of tungsten carbide to customers through innovative solutions that enhance productivity.



For the purest carbide on the market, turn to **Extramet Next Generation Tungsten Carbide**
Call us at 800-862-7066 to learn more.

OUR MANUFACTURING CAPABILITIES

Extramet has a wide range of manufacturing capabilities and extensive prototype-tooling and production experience in the custom applications of tungsten carbide components. In developing a new product, or enhancing an existing one.



SPECIAL APPLICATIONS

CUSTOM SOLUTIONS FOR BUSINESS PARTNERS

Extramet works hard to deliver new and better ways of meeting our customer's ever-growing demands for quality carbide products. We take pride in providing and developing custom solutions for our customer's toughest manufacturing challenges. We have the expertise and the capability to offer a complete range of precision metal applications. Our process is customized for your specific needs and designed for success.

CAN WE HELP YOU WITH A SPECIFIC CHALLENGE?

Contact Extramet to discuss how we can assist you in optimizing the performance of your application and be the solutions provider for your most challenging metal manufacturing projects.

Call us at 800-862-7066 and arrange for a no obligation, informal consultation with one of our technical advisors.

PRECISION MACHINING

Extramet provides a comprehensive range of manufacturing, assembly and inspection capabilities.

Tungsten Carbide Production Processes

Over many years, Extramet has developed a wide range of skills in the process of Tungsten Carbide manufacture ensuring the provision of a high level of service and quality of products for our customers. The full offering includes:

- ENGINEERING DESIGN

Working from drawings or developing product designs in conjunction with customers.

- PROJECT MANAGEMENT

Customers are appointed a key contact who stays with each project from concept to completion.

- POWDER PREPARATION

'In house' material blending ensures the latest grade developments for today's markets and applications.

- PRESSING

From a 'one-of-a-kind' hand pressed items to high volume cost effective automatic pressings or extrusions.

- SHAPING

State-of-the-art CNC machining centres for large and complex profile components.

- SINTERING


Using Hot Isostatic Press (HIP) technology.

- FINISHING

Wide range of CNC machines for cylindrical, surface, profile grinding, EDM machinery in addition to 'in house' built equipment for specialized products.

Extramet offers customers a wide array of processing services on site. We offer capabilities such as:

- WIRE EDM
- LASER ETCHING
- HONING
- SURFACE GRINDING
- THREAD GRINDING
- CENTERLESS GRINDING
- CNC INTERNAL GRINDING
- CNC CYLINDRICAL GRINDING



ENERGY
OIL & GAS
MEDICAL
AUTOMOTIVE
INDUSTRIAL
DEFENSE & AEROSPACE
HEAVY EQUIPMENT
MANUFACTURING

INDUSTRY SPECIFIC PRODUCTS

Quality, Precise & Reliable

Our technology, engineering and manufacturing solutions are used to build components for mission-critical applications.

Extramet tungsten-carbide products are used in a wide range of applications in many industry sectors demanding high precision parts and tools.

Extramet has developed extensive expertise in providing our customers with custom design assistance to either improve existing tungsten carbide components or develop innovative new components and applications.

Extramet's versatility makes it possible for the company to both maintain a comprehensive stocking program and offer diverse product lines with industry-specific applications.

We stand behind our product even in the most extreme conditions.

DESIGNING FOR CARBIDE

Solutions for industry specific requirements

Cemented carbide is a unique blend of fine grain tungsten carbide powder and a small amount of binder material, usually cobalt, also in powder form, which is processed and sintered. The sintering process binds the tungsten carbide grains with the binder material to form the ultra hard material. The tungsten grains provide the hardness and abrasion resistance and the binder material grains provide the ductility or toughness.

Designing for Carbide requires special considerations in the area of selecting specific factors based on stress, toughness, impact and corrosion characteristics. Components should be designed within these parameters for optimum performance.

Stress

Stress reducing factors such as large fillet radii at corners and generous cross sections around holes will naturally lead to enhance load resistance.

Impact Resistance

For an impact application, consider that its impact resistance is a function of its composition; grades of higher binder content will tend to have greater impact resistance. Carbide material excels, when compared to tool steel, for impact applications.

Wear Qualities

Cemented carbide grades are far superior to steel counterparts in wear applications. The lower the binder content and the finer the grain size, the better the wear capabilities. For particularly abrasive applications and where maintaining sharp edges is vital, submicron grades will benefit the user.

Corrosion Resistance

Involves consideration of the operating environment. The cobalt binder in tungsten carbide is subject to attack, binder leaching, where chlorinated liquids such as city water are present. In such environments, the corrosion resistance of nickel bound grades is superior to cobalt bound grades.

Extramet proprietary grades have been developed to accommodate specific wear and cutting applications.

Extramet is committed to the continuous improvement and development of its tungsten carbide grades for all application areas as well as introducing novel and custom solutions.

Delivering excellent performance solutions under high wear conditions lies at the heart of all our products, whatever their application area.



LIVING UP TO QUALITY

Our goal is to meet your demands on the quality of products and services every day.

In order to secure quality at every level, we work in accordance with a number of certified quality management systems.

Our comprehensive quality assurance program ensures that all Extramet material is certified to ISO 9001:2008 quality standards.

EXTRAMET DETAILED GRADES

Extramet provides a full range of tungsten carbide compositions for metal forming and cutting applications.

Our dedicated manufacturing engineers will work closely with you in understanding your application to ensure best grade selection for your specific manufacturing objective

Please contact us to see our charts showing more detailed values for specific Tungsten Carbide grades.

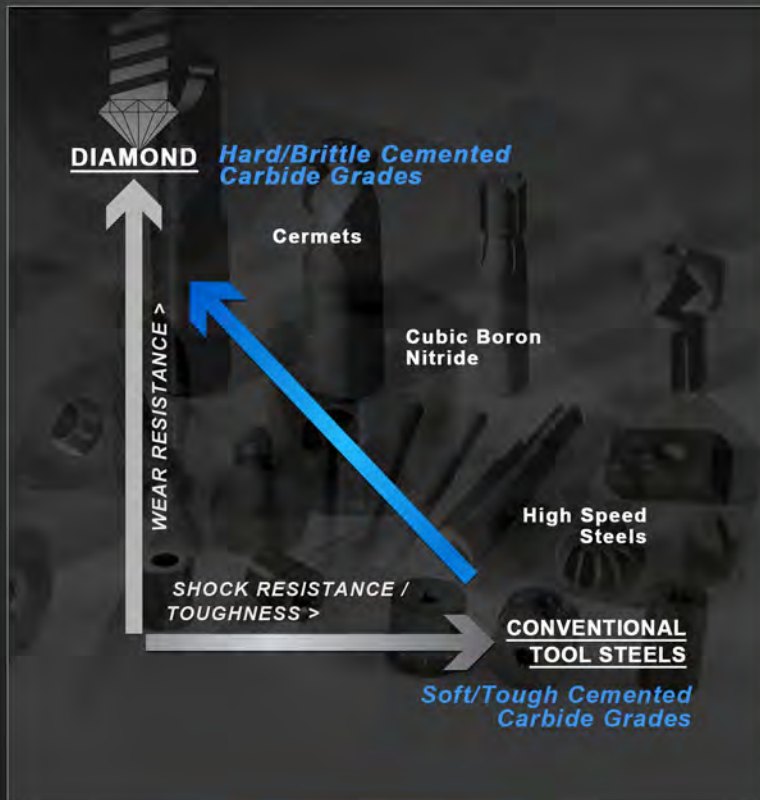
**ISO 9001:2000
ISO 14001:2004
OHSAS 18001:1999**



SELECTING GRADES

Selecting the proper grade of cemented tungsten carbide is a process and the key to success.

Cemented carbide fills the broad gap between steel and diamond.



There are over a dozen different grades of Tungsten Carbide. When evaluating equivalents of Tungsten Carbide grades the important criteria is to specify two of three factors; binder content, hardness or grain size.

EFFECTS OF GRAIN SIZE

The smaller the average tungsten carbide grain size, the higher the hardness and wear resistance, but the lower the shock resistance.

The larger the carbide grain size, the greater the toughness and resistance to shock loads, but the lower the hardness and abrasive resistance.

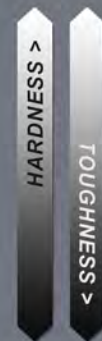


EXTRAMET CARBIDE GRADES

Extramet has years of experience developing and processing graded powders. We provide a full range of carbide grades to ensure your specific manufacturing objectives are met.

Our grades meet industry wide standards for a broad range of applications where superior wear resistance and shock resistance are required.

SUB MICRON GRAIN



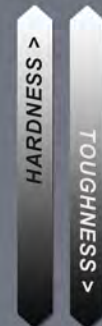
EMT 100 6% CO

EMT 100 offers high wear resistance for the machining of non-ferrous metals, plastic and fiber reinforced materials. Other applications include diamond coating, reaming, oil field wear parts, nozzles, compacting tooling and for rolling and punching thin metallic materials.

EMT 210 10% CO

EMT 210 is used in general purpose rotary carbide tooling. High Transverse Rupture Strength (TRS) for the machining of non-ferrous metals, nickel-alloyed steels, as well as hardened, alloyed, cast and stainless steel. Grade withstands moderate impact and is used in valves, metering and wear applications.

FINE GRAIN



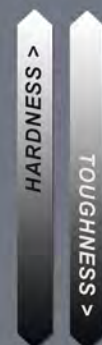
EMT 409 9% CO

EMT 409 combines edge strength with wear and temperature resistance. Ideal for roughing, and heavy drilling. Uses include metal punching and forming.

EMT 412 12% CO

EMT 412 is noted for high Traverse Rupture Strength (TRS) for impact resistance and heightened edge strength, both of which make an excellent choice for applications such as interrupted cut milling and punching.

ULTRAFINE GRAIN



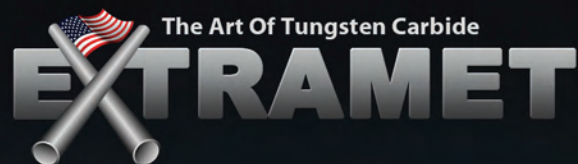
EMT 609 9% CO

EMT 609 ultrafine grade used for milling hardened steel (>50HRV). It is ideal for High Speed Cutting (HSC) for mold construction, wear resistant micro-tools, finish spot milling/secondary chatter reduction and uncoated machining for new composite materials. Exceptional resistance to wear. WEDM is to be avoided.

EMT 612 12% CO

EMT 612, ultrafine grade with improved impact strength and Traverse Rupture Strength (TRS) for machining hard materials up to 64HRC, titanium alloys and high alloyed steels. WEDM is to be avoided.

Proprietary grades are produced on an application specific basis. All materials are traceable to the production lots and manufactured in accordance with international health, safety, and quality standards.



Your Best Choice For Carbide Components

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